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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/850,236	05/08/2001	Motoaki Tanizawa	207202US2	2234
22850	7590	12/15/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CRAIG, DWIN M	
			ART UNIT	PAPER NUMBER
			2123	

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/850,236

Applicant(s)

TANIZAWA, MOTOAKI

Examiner

Dwin M Craig

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 5-8-2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 14, 15, 18 & 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5-9-2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-19 have been presented for Examination. Claims 1-7, 10-13, 16 and 17 have been Examined and rejected. Claims 8, 9, 14, 15, 18 and 19 have been objected to.

#### Priority

2. The Examiner acknowledges the Applicants priority to the Japanese Laid Open Patent Application P2000-359113 as disclosed in Applicants Oath and Declaration.

#### Specification

3. The abstract of the disclosure is objected to because the number of words exceeds 150. Correction is required. See MPEP § 608.01(b), and ...

#### **6.02 Content of Specification**

(j) Abstract of the Disclosure: A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims.

#### Non-Statutory Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-19 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-20 of copending Application No. 09/556,590. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

It would have been obvious, to one of ordinary skill in the art, to interpret the claim language of independent Claim 1 of U.S. Application 09/556,590 to be functionally equivalent to the claim language in independent claims 1, 10 and 16 of U.S. Application 09/850,236.

More specifically, and for example, Independent Claim 1 of the pending U.S. non-provisional application (09/850,236), recites the limitations of *“adopting a physical model for physical properties that provide characteristic quantity sets  $g_i(i = 1, 2, \dots, m)$  each consisting of the first to  $z$ -th ( $z \geq 2$ ) characteristic quantities  $g_{iy}(y = 1, 2, \dots, z)$ , corresponding to a plurality of extrinsic factor sets  $v_i$ ”* and then in combination with the limitation *(which comprises at least one extrinsic factor)* and *(obtaining said error function  $S$  by summing values each of which are obtained by dividing the square of the difference between each of said characteristic quantities)* is functionally equivalent to the following limitations in Independent Claim 1 of the pending U.S. non-provisional application (09/556,590) *“adopting a physical model for physical properties that provide characteristic quantity sets  $g_i(i = 1, 2, \dots, m)$  comprising at least one characteristic in correspondence to each of a plurality of extrinsic factor sets  $v_i$  which comprises at least one extrinsic factor”* and then in combination with the limitation *(extracting said*

Art Unit: 2123

*parameter set P that gives a minimum value of an error function S... which obtained by multiplying a difference*). It is noted by the Examiner that *multiplying a difference*, is functionally the same as *the square of the difference* or more commonly referred to as “*sums of squares*”.

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Independent **Claims 1, 10 and 16** and dependent **Claims 2-7, 11-13 and 17** are rejected under 35 U.S.C. 102(b) as being anticipated by **Kunikiyo et al. U.S. Patent 5,845,105**.

5.1 As regards independent **Claims 1, 10 and 16** and taking **Claim 1** as an example, the *Kunikiyo et al.* reference teaches, a method of extracting physical model parameters (**Figure 13 items 50 & 52, Col. 2 Lines 13-33**), “*adopting a physical model for physical properties that provide characteristic quantity sets  $g_i (i = 1, 2, \dots, m)$  each consisting of the first to  $z$ -th ( $z \geq 2$ ) characteristic quantities  $g_{iy} (y = 1, 2, \dots, z)$ , corresponding to a plurality of extrinsic factor sets  $v_i$ ” (**Figure 16 item 112**, map  $S(j)$  to  $g_i$  and **Figure 18 items 142, 144, 146, 148 and 150** map  $x(i) + \Delta x$  to  $z$ -th ( $z \geq 2$ ) and note that in item 142 ( $i = 1$ ) and that in item 148 ( $i = i + 1$ ) hence ( $i > 2$ )), and (**Col. 6 Lines 42-67, Col. 7 Lines 1-5**), combination with the limitation (*which comprises at least one extrinsic factor*) and (*obtaining said error function S by summing values**

Art Unit: 2123

*each of which are obtained by dividing the square of the difference between each of said characteristic quantities*) which is functionally equivalent to the *Sum of Squares of Differences* method (**Figure 15, Col. 7 Lines 65-67, Col. 8 Lines 1-20, Col. 9 Lines 40-47, Col. 12 Lines 50-55**), “*obtaining an error function S by summing values each of which are obtained by dividing the square of the difference between each of said characteristic quantities* (**Figure 15, Col. 7 Lines 65-67, Col. 8 Lines 1-20, Col. 9 Lines 40-47, Col. 12 Lines 50-55 and Figures 20 & 21, Col. 13 Lines 18-24**), and variance (**Figure 21, Col. 16 Lines 1-4**) and calculating minimum values (**Figure 16 item 112, 17 item 130 and 18 item 152**).

5.2 As regards dependent **Claims 2, 11 and 17** the *Kunikiyo et al.* reference teaches comparing the calculated values with observed values and performing a *curve fit* (**Figures 20 & 22**).

5.3 As regards dependent **Claims 3 and 12** the *Kunikiyo et al.* reference discloses a positive value for S (**Figure 16 and Col. 12 Lines 36-60**).

5.4 As regards dependent **Claims 4, 5 and 13** it would be inherent that if S is tested for convergence that the probability Q would fluctuate in a monotonous manner, *see Kunikiyo et al.* reference (**Figures 20 & 21**).

5.5 As regards dependent **Claim 6** the *Kunikiyo et al.* reference teaches the Gauss-Newton method (**Col. 10 Lines 45-48**).

5.6 As regards dependent **Claim 7** the *Kunikiyo et al.* reference teaches the Levenberg-Marquardt method (**Col. 12 Lines 5-10**).

**Allowable Subject Matter**

6. **Claims 8, 9, 14, 15, 18 and 19** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Examiner notes that there is also a requirement to overcome the nonstatutory double patenting rejections, *see section 4 above*.

**Conclusion**

7. **Claims 1-19** have been presented for Examination. **Claims 1-7, 10-13, 16 and 17** have been rejected. Dependent **Claims 8, 9, 14, 15, 18 and 19** have been objected to.

7.1 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Fan et al. U.S. Patent 5,467,291** discloses methods of extracting device parameters.
- **Joardar et al. U.S. patent 5,687,355** discloses modeling different circuit parameters (**Figures 14 & 15**).
- **Mallavarpu et al. U.S. Patent 6,266,629** discloses modeling device parameters (**Figure 5**).

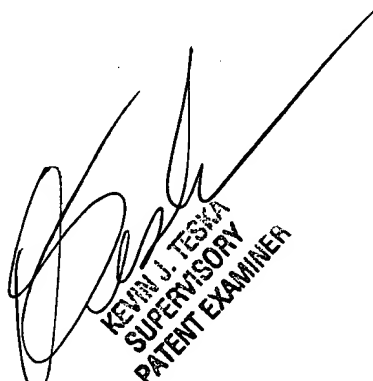
7.2 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwain M Craig whose telephone number is (571) 272-3710. The examiner can normally be reached on 10:00 - 6:00 M-F.

Art Unit: 2123

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on (571)272-3716. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMC



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